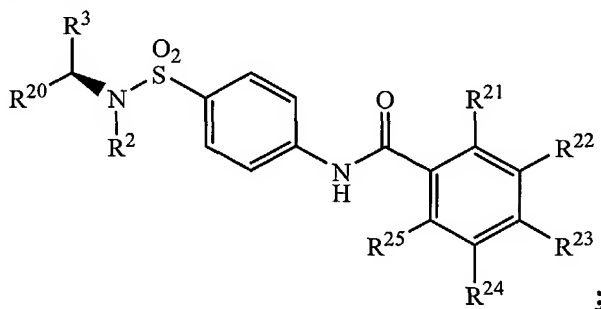


Amended Claims

1. (currently amended) A ~~matrix-metalloproteinase-inhibiting~~ compound; an enantiomer, diastereomer, racemate, or tautomer of the compound; or a salt of the compound, enantiomer, diastereomer, racemate, or tautomer, wherein:

the compound has having the following structure:



~~or a salt, an enantiomer, a diastereomer, a racemate, or a tautomer thereof, wherein:~~

~~R² is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, heterocycloalkyl, and heterocycloalkylalkyl morpholinylalkyl;~~

~~R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxy, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl;~~

~~R²⁰ is selected from the group consisting of -C(O)OH, -C(O)NHOH, -SH, and -C(O)SH; and~~

~~R²¹, R²², R²³, R²⁴, and R²⁵ are independently selected from the group consisting of H, C₁ to about C₂₀ alkyl, C₁ to about C₂₀ alkenyl, C₁ to about C₂₀ alkynyl, cycloalkyl, haloalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, nitroalkyl, heterocycloalkyl, alkoxy, cycloalkoxy, alkoxycarbonyl, alkoxyalkyl, haloalkoxy, haloalkylthio, alkylamino, and carboxyalkyl.~~

2. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 1 wherein R²⁰ is selected from the group consisting of -C(O)OH and -C(O)NHOH.

3. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 2 wherein R^{21} and R^{25} are H.

4. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 3 wherein R^{22} and R^{24} are H.

5. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 4 wherein R^{23} is C_1 to about C_{20} alkyl.

6. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 5 wherein R^{23} is C_1 to about C_{20} linear alkyl.

7. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 2 wherein R^{20} is $-C(O)OH$.

8. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 7 wherein R^3 is selected from the group consisting of alkyl, alkenyl, alkynyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl.

Claim 9 (canceled).

10. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 8 9 wherein R^2 R^3 is 2-(N-morpholino)ethyl.

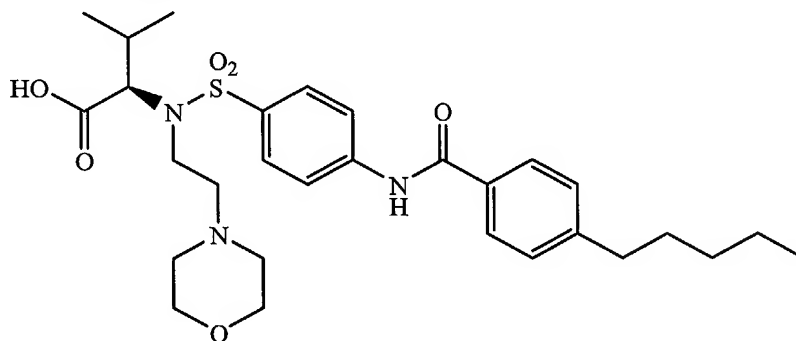
11. (currently amended) The ~~matrix-metalloproteinase-inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 2 wherein R^{20} is $-C(O)NHOH$.

12. (currently amended) The ~~matrix metalloproteinase inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 11 wherein R³ is selected from the group consisting of alkyl, alkenyl, alkynyl, haloalkoxy, and haloalkylthio, ~~and heterocycloalkyl~~.

Claim 13 (canceled).

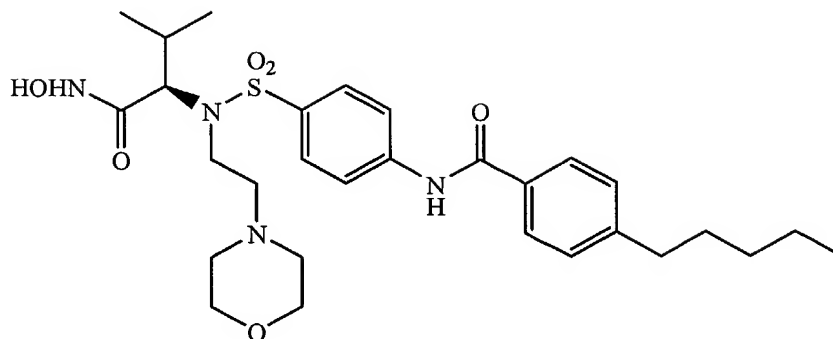
14. (currently amended) The ~~matrix metalloproteinase inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim ~~12~~ 13 wherein ~~R²~~ R³ is 2-(N-morpholino)ethyl.

15. (currently amended) The ~~matrix metalloproteinase inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim ~~10~~ 14 ~~having wherein~~ the compound has the following structure:



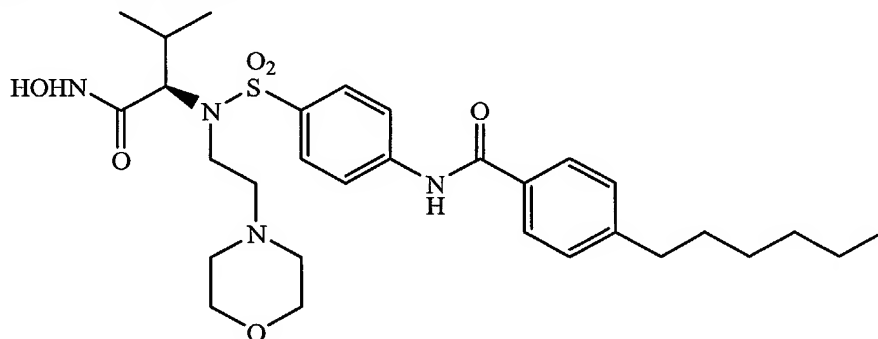
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

16. (currently amended) The ~~matrix metalloproteinase inhibiting~~ compound, enantiomer, diastereomer, racemate, tautomer, or salt of claim 14 ~~having wherein~~ the compound has the following structure:



~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

17. (currently amended) The ~~matrix metalloproteinase inhibiting~~ compound,
enantiomer, diastereomer, racemate, tautomer, or salt of claim 14 ~~having wherein~~ the
compound has the following structure:



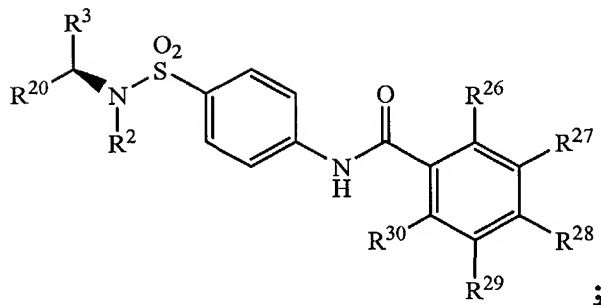
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

Claim 18 (canceled).

19. (currently amended) A method of changing the conformation of a matrix metalloproteinase, wherein:

the method comprises contacting the matrix metalloproteinase with a compound; an enantiomer, diastereomer, racemate, or tautomer of the compound; or a salt of the compound, enantiomer, diastereomer, racemate, or tautomer;

the compound has having the following formula:



~~or a salt, an enantiomer, a diastereomer, a racemate, or a tautomer thereof, thereby changing the conformation of the matrix metalloproteinase, wherein:~~

~~R² is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, heterocycloalkyl, and heterocycloalkylalkyl~~ morpholinylalkyl;

~~R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxy, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl;~~

~~R²⁰ is selected from the group consisting of -C(O)OH, -C(O)NHOH, -SH, and -C(O)SH; and~~

~~R²⁶, R²⁷, R²⁸, R²⁹, and R³⁰ are independently selected from the group consisting of about C₃ to about C₂₀ alkyl, about C₃ to about C₂₀ alkenyl, about C₃ to about C₂₀ alkynyl, cycloalkyl, haloalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, nitroalkyl, heterocycloalkyl, alkoxy, cycloalkoxy, alkoxy carbonyl, alkoxyalkyl, haloalkoxy, haloalkylthio, alkylamino, and carboxyalkyl.~~

20. **(original)** The method of claim 19 wherein R²⁰ is selected from the group consisting of -C(O)OH and -C(O)NHOH.

21. **(currently amended)** The method of claim 19 wherein R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, haloalkoxy, and haloalkylthio, ~~and heterocycloalkyl.~~

22. **(original)** The method of claim 21 wherein R³ is a C₁ to about C₁₂ alkyl.

23. **(original)** The method of claim 22 wherein R³ is a C₁ to about C₄ alkyl.

24. **(original)** The method of claim 23 wherein R³ is isopropyl.

Claim 25 (canceled).

26. **(currently amended)** The method of claim ~~19~~ **25** wherein R² is 2-(N-morpholino)ethyl.

27. **(original)** The method of claim 19 wherein R²⁶ and R³⁰ are H.

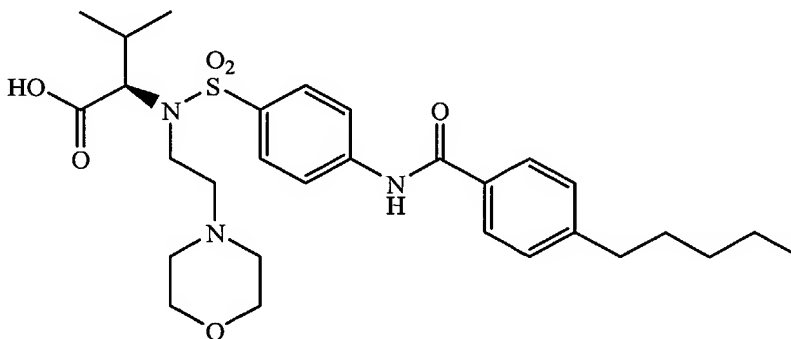
28. **(original)** The method of claim 27 wherein R²⁷ and R²⁹ are H.

29. **(original)** The method of claim 28 wherein R²⁸ is about C₃ to about C₂₀ alkyl.

30. **(original)** The method of claim 29 wherein R²⁸ is about C₃ to about C₂₀ linear alkyl.

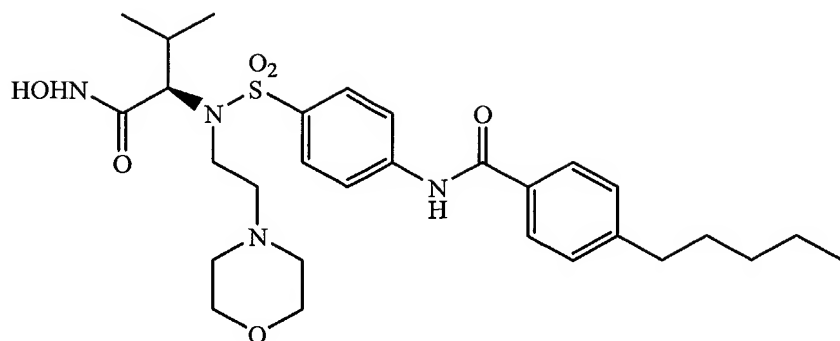
31. **(original)** The method of claim 30 wherein R²⁸ is selected from the group consisting of n-propyl, n-butyl, n-pentyl and n-hexyl.

32. **(currently amended)** The method of claim 31 wherein the compound has the following structure:



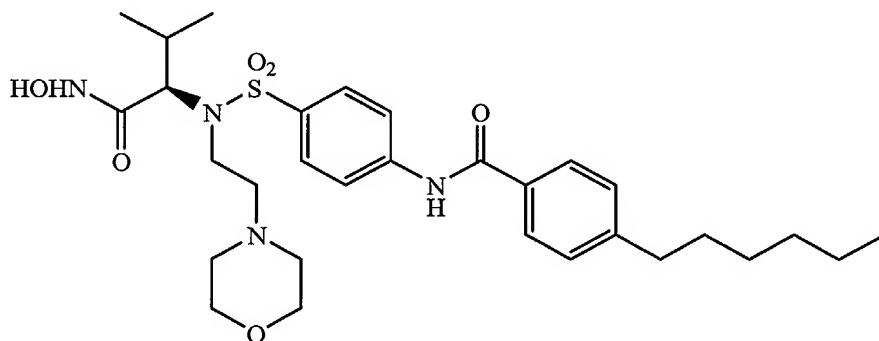
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

33. **(currently amended)** The method of claim 31 wherein the compound has the following structure:



~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

34. (currently amended) The method of claim 31 wherein the compound has the following structure:



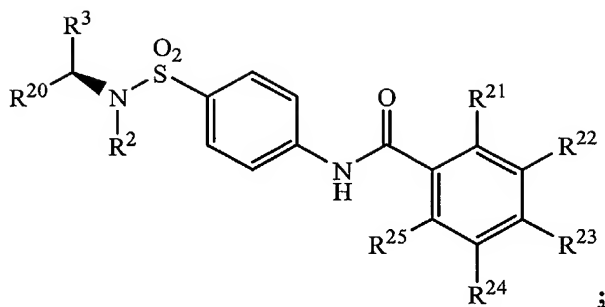
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

Claim 35 and 36 (canceled).

37. (currently amended) The method of claim ~~36~~ 19 wherein the matrix metalloproteinase is MMP-8.

38. (currently amended) The method of claim ~~36~~ 19 wherein the matrix metalloproteinase is MMP-13.

39. (currently amended) A method of inhibiting a matrix metalloproteinase, wherein:
the method comprises contacting the matrix metalloproteinase with a compound; an
enantiomer, diastereomer, racemate, or tautomer of the compound; or a salt of the
compound, enantiomer, diastereomer, racemate, or tautomer;
the compound has ~~having~~ the following formula:



~~or a salt, an enantiomer, a diastereomer, a racemate, or a tautomer thereof, thereby inhibiting the matrix metalloproteinase, wherein:~~

~~R² is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, heterocycloalkyl, and heterocycloalkylalkyl morpholinylalkyl;~~

~~R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxy, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl;~~

~~R²⁰ is selected from the group consisting of -C(O)OH, -C(O)NHOH, -SH, and -C(O)SH; and~~

~~R²¹, R²², R²³, R²⁴, and R²⁵ are independently selected from the group consisting of H, C₁ to about C₂₀ alkyl, C₁ to about C₂₀ alkenyl, C₁ to about C₂₀ alkynyl, cycloalkyl, haloalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, nitroalkyl, heterocycloalkyl, alkoxy, cycloalkoxy, alkoxyalkyl, haloalkoxy, haloalkylthio, alkylamino, and carboxyalkyl.~~

40. **(original)** The method of claim 39 wherein R²⁰ is selected from the group consisting of -C(O)OH and -C(O)NHOH.

41. **(currently amended)** The method of claim 39 wherein R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl.

42. **(original)** The method of claim 41 wherein R³ is a C₁ to about C₁₂ alkyl.

43. **(original)** The method of claim 42 wherein R³ is a C₁ to about C₄ alkyl.

44. **(original)** The method of claim 43 wherein R^3 is isopropyl.

Claim 45 (canceled).

46. **(currently amended)** The method of claim ~~39~~ **45** wherein R^2 is 2-(N-morpholino)ethyl.

47. **(original)** The method of claim 39 wherein R^{21} and R^{25} are H.

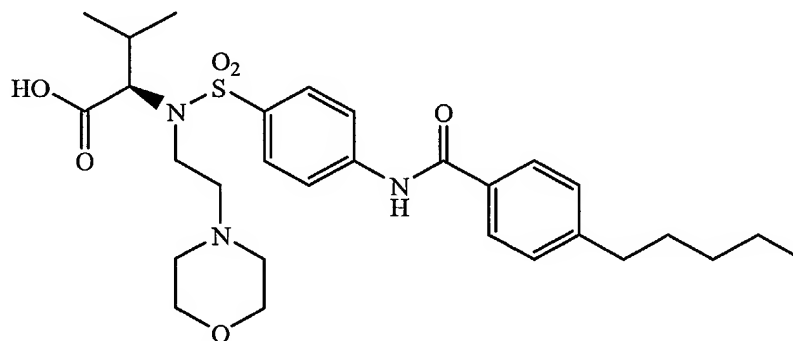
48. **(original)** The method of claim 47 wherein R^{22} and R^{24} are H.

49. **(original)** The method of claim 48 wherein R^{23} is C_1 to about C_{20} alkyl.

50. **(original)** The method of claim 49 wherein R^{23} is methyl or C_2 to about C_{20} linear alkyl.

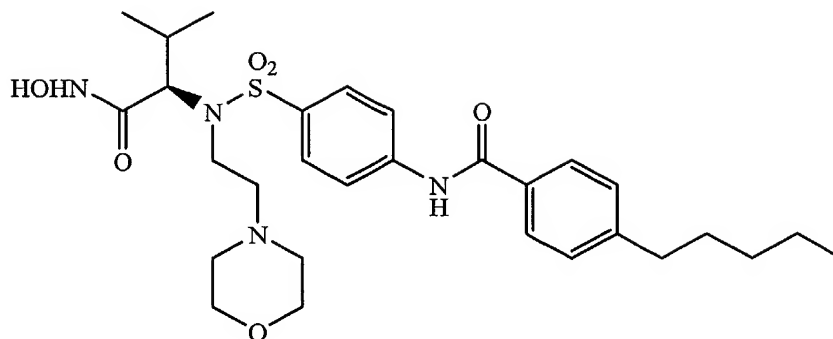
51. **(original)** The method of claim 50 wherein R^{23} is n-pentyl or n-hexyl.

52. **(currently amended)** The method of claim 51 wherein the compound has the following structure:



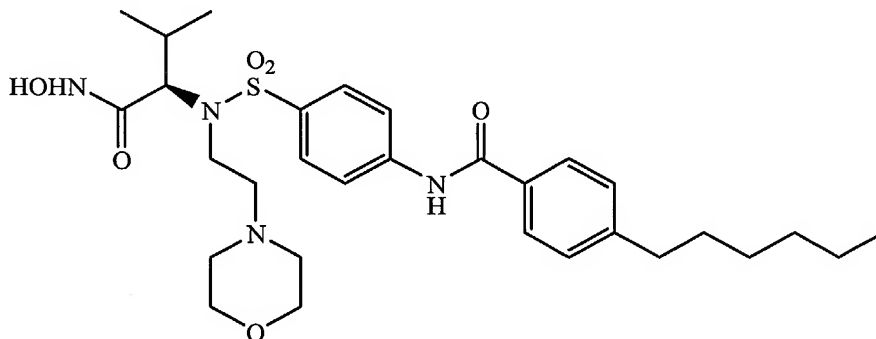
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

53. **(currently amended)** The method of claim 51 wherein the compound has the following structure:



~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

54. (currently amended) The method of claim 51 wherein the compound has the following structure:



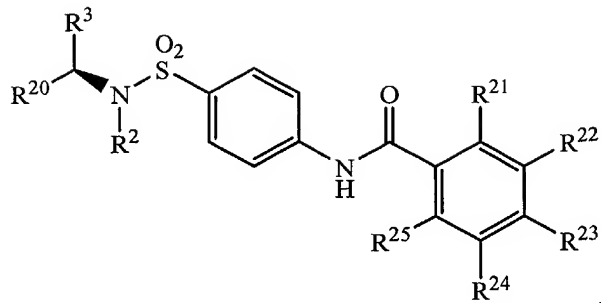
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

Claim 55 and 56 (canceled).

57. (currently amended) The method of claim ~~56~~ 39 wherein the matrix metalloproteinase is MMP-8.

58. (currently amended) The method of claim ~~56~~ 39 wherein the matrix metalloproteinase is MMP-13.

59. (currently amended) A method treating osteoarthritis in a mammal, wherein:
the method comprises providing to the mammal an osteoarthritis-treating-effective
amount of a compound; an enantiomer, diastereomer, racemate, or tautomer of the
compound; or a salt of the compound, enantiomer, diastereomer, racemate, or tautomer;
the compound has ~~having~~ the following formula:



~~or an enantiomer, diastereomer, racemate, or tautomer thereof, thereby treating osteoarthritis, wherein:~~

~~R² is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, heterocycloalkyl, and heterocycloalkylalkyl morpholinylalkyl;~~

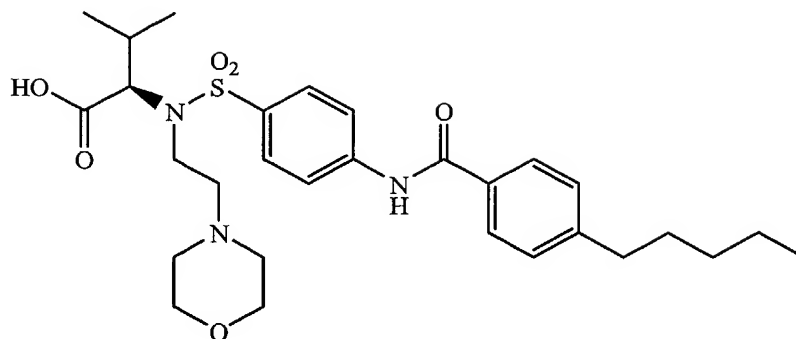
~~R³ is selected from the group consisting of H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, alkylaryl, arylalkyl, alkoxy, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, haloalkoxy, and haloalkylthio, and heterocycloalkyl;~~

~~R²⁰ is selected from the group consisting of -C(O)OH, -C(O)NHOH, -SH, and -C(O)SH; and~~

~~R²¹, R²², R²³, R²⁴, and R²⁵ are independently selected from the group consisting of H, C₁ to about C₂₀ alkyl, C₁ to about C₂₀ alkenyl, C₁ to about C₂₀ alkynyl, cycloalkyl, haloalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, nitroalkyl, heterocycloalkyl, alkoxy, cycloalkoxy, alkoxy carbonyl, alkoxyalkyl, haloalkoxy, haloalkylthio, alkylamino, and carboxyalkyl.~~

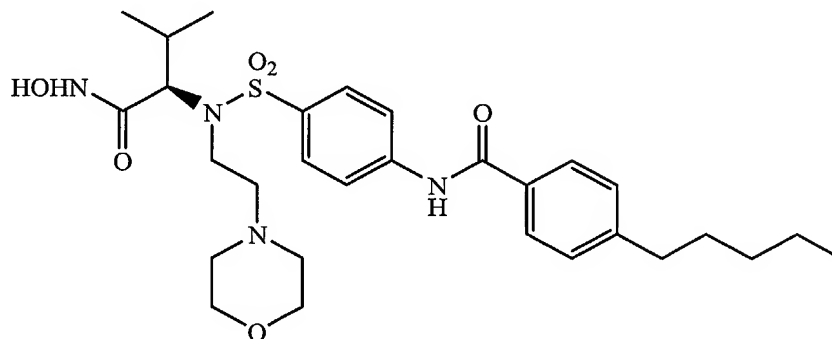
60. **(original)** The method of claim 59 wherein the mammal is a human.

61. **(currently amended)** The method of claim 60 wherein the compound has the following structure:



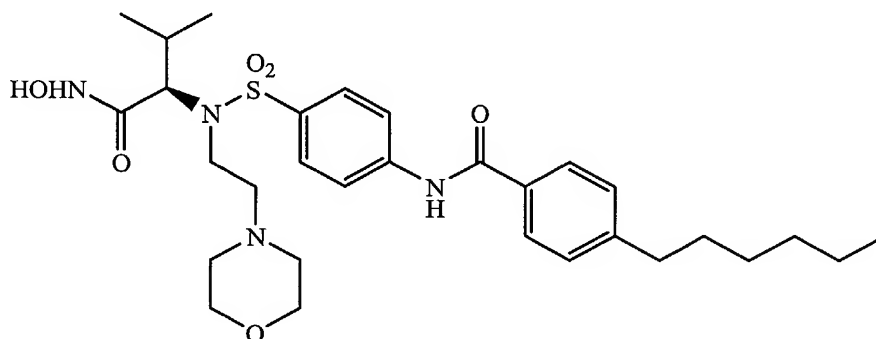
~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

62. (currently amended) The method of claim 60 wherein the compound has the following structure:



~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

63. (currently amended) The method of claim 60 wherein the compound has the following structure:



~~or a salt, an enantiomer, a racemate, or a tautomer thereof.~~

Claim 64 (canceled).